siplast®

SBS-Modified Bitumen Roof Systems

High performance systems from the developers of SBS-modified bitumen.

For the newly constructed Swedish Issaquah Hospital in Washington, a variety of roofing and waterproofing assemblies were installed under a tight construction schedule, including: Paradiene 20/30 FR TG, Paradiene 20/20 and pavers, Teranap Waterproofing for a vegetated roof, and Parapro 123 Flashing.

Innovation

The decades of rebuilding following World War II in Europe saw dramatic changes in construction practices. New techniques were developed to reduce the time and expense of reconstruction. In roofing, higher insulation values and less stable substrates began to be used, but traditional roofing materials were not designed to perform over such substrates. With traditional materials facing increased structural stresses, thermal shock, heat load, and insulation joint movement, the time was right for new roofing technology.

Seven hundred squares of Siplast's Paradiene 20/30 Engineered Roof System protect the United Nations General Assembly Building in New York.

That's when Siplast, working in conjunction with Shell Chemical of Europe, developed SBS (styrene-butadiene-styrene) modified bitumens. We found that by properly modifying asphalt with SBS, we could produce a highly durable elastomeric blend with exceptional elongation/recovery properties over a wide range of temperatures. Asphalt modified with SBS proved to be the solution to new construction design challenges – challenges that could not be met by other technologies. During the course of this development, several factors were isolated as being critical to the long-term performance of the SBS blend.

Consistency

There are four factors critical to the long-term success of an SBS asphalt blend: blending time, blending temperature, formulation, and raw materials. However, there are infinite variations within those areas, leading to the possibility of an infinite number of results.

Blending time, blending temperature, and formulation can be controlled in the factory. The fourth factor, raw materials, cannot. The proper selection and consistent supply of chemically compatible raw materials is the most fundamental element in the manufacture of SBS-modified bitumen roofing. One formulation or raw material change can completely alter the end result.

That's why, while other manufacturers may react to cost or availability issues by changing raw materials, Siplast will not. Siplast is not willing to risk a negative impact on product quality and performance over such things. As a result, while the performance of other SBS-modified bitumen sheets can vary, you can count on Siplast product performance. Our raw materials are consistent, our formulation is consistent, and our blending processes are consistent. That means our products are consistent – guaranteed. There are Siplast roofs that were applied in the early years of our SBS blend that are still in service today. Since then, Siplast Engineered Roof Systems have been applied in the extremely varied weather conditions of more than 40 countries. That performance history has helped us earn our reputation as a leader in the development and manufacture of the world's most advanced roofing and waterproofing systems.

Quality

At the Siplast North American roofing manufacturing facilities, stringent quality control tests are performed on every lot of material we produce to ensure that they meet specific criteria important to the performance of roofing and waterproofing products. For our clients who choose roll roofing products shipped from our roofing manufacturing facility to the jobsite, Siplast provides the results of these tests upon request in a Certificate of Analysis. By offering test results for the specific lot of material delivered to their roof, Siplast provides building owners with an extra measure of assurance that they are getting the quality they paid for.

Application

Siplast Systems are installed exclusively by Siplast Select Contractors. These independent professionals have met the qualifications of the toughest contractor certification program in the industry – ours. Their proven skill and dedication have demonstrated time and again that they regard themselves as members of a team dedicated to installing great roofs for their building owner customers.

Siplast RoofTag

To enhance and expand our innovative Certificate of Analysis program, Siplast is proud to offer RoofTag: RF Technology for Roof Asset Identification. By choosing Siplast roof membranes with RoofTag RF chips factory-embedded in the sheets, owners and the design professionals they may work with have a simple way to verify that the product quality specified matches that of the product installed. With RoofTag, access to Certificate of Analysis data, product information, and job information is possible by scanning the installed roof membrane. Once installed, building owners have a tool for roof asset management, with a unique opportunity to link the roof system in place with its history.

Products

Every project is unique. That's why Siplast offers three families of SBS-modified bitumen roof membrane systems with varying combinations of blend thickness, carriers, and surfacings. This variety enables you to select the Siplast Roof System that perfectly matches your requirements.

Siplast NVS Lightweight Insulating Concrete and Paradiene 20/30 FR work as a complete system to protect this Florida resort.

Over 1,200 squares of Paradiene 20 EG TG/ 30 TG were torch-applied over NVS Lightweight Insulating Concrete on this Toronto shopping mall.

The roof assembly chosen for this critical Dallas data center included over 5,800 squares of Paradiene roof membrane installed over Insulcel RT Lightweight Insulating Concrete. The project was finished with Proform Gravel Stop.

1,100 squares of Siplast's depolluting Eco-Activ Roof Membrane were installed to replace the PVC single ply roof on the signature dome of Maple Leaf Gardens in Toronto.

Paradiene 20/30

Paradiene 20/30 is a proven, lightweight, multi-ply, highly flexible membrane designed to retain its elasticity through severe solar load, ultraviolet rays, thermal shocks, random ponding water, and extreme low temperature. Both Paradiene's top and base plies consist of an elastomeric asphalt blend – a unique formulation of SBS and high quality proprietary asphalt – reinforced with a fiberglass mat. The workhorse Paradiene 20 base ply absorbs roof stresses while the granule-surfaced top ply, Paradiene 30, shields the base from the elements and mechanical abuse. The granule surface means the system doesn't require the application of gravel, giving it a light installed weight of approximately 200 pounds per square, and making inspection and repair easier.

The Paradiene 20/30 System can be installed with one of Siplast's cold adhesive products, a torch, or approved mopping asphalt. Paradiene 20 SA and Paradiene 20 TS SA are available for applications requiring a self-adhesive base sheet.

Siplast offers several solutions for cool roofing applications, including Paradiene BW membranes. Paradiene BW membranes are high performance SBS-modified bitumen finish plies surfaced with highly reflective, bright white mineral granules – not films or coatings. Paradiene BW finish plies are California Title 24 Part 6 Compliant, are CRRC rated, and qualify for LEED certification points as defined by the United States Green Building Council.

Siplast Eco-Activ® Depolluting Roof Membrane

For building owners interested in an effective and efficient way to be environmentally responsible with their roof, Siplast offers the innovative Eco-Activ Depolluting Roof Membrane. Eco-Activ is the designation given to any Siplast Paradiene or Parafor cap sheet surfaced with Noxite® Depolluting Granules.

Noxite is a photocatalyst, and reacts in the presence of UV light. When sunlight hits an Eco-Activ roof, Noxite absorbs UV light and behaves like a photovoltaic cell, generating electrical charges that accelerate the transformation of harmful nitrogen oxide molecules into harmless molecules. By-products from the decomposition of NOx molecules are carried away by rainwater, and have no measurable impact on the quality of runoff

water. Eco-Activ Roof Membranes require no maintenance beyond that of standard, responsible roof management, and Noxite's depolluting functionality continues to work throughout the life of the roof.

Yearly, 200 squares (20,000 square feet) of Eco-Activ membrane surfaced with Noxite Granules offset the nitrogen oxide pollution (NOx) produced by more than 50 passenger light vehicles.* Offset rates differ by location, due to variances in prevailing atmospheric conditions and UV levels.

Siplast has achieved a UL Environment claim validation for Eco-Activ Roof Membrane's ability to remove an estimated 417-4,143 g NOx per roofing square over 20 years. For more information on the technology behind Eco-Activ, contact Siplast.

* Based on studies using estimated conditions (sunlight, humidity, and NOx) for Los Angeles, and mileage of the average U.S. household vehicle (11,300 miles).

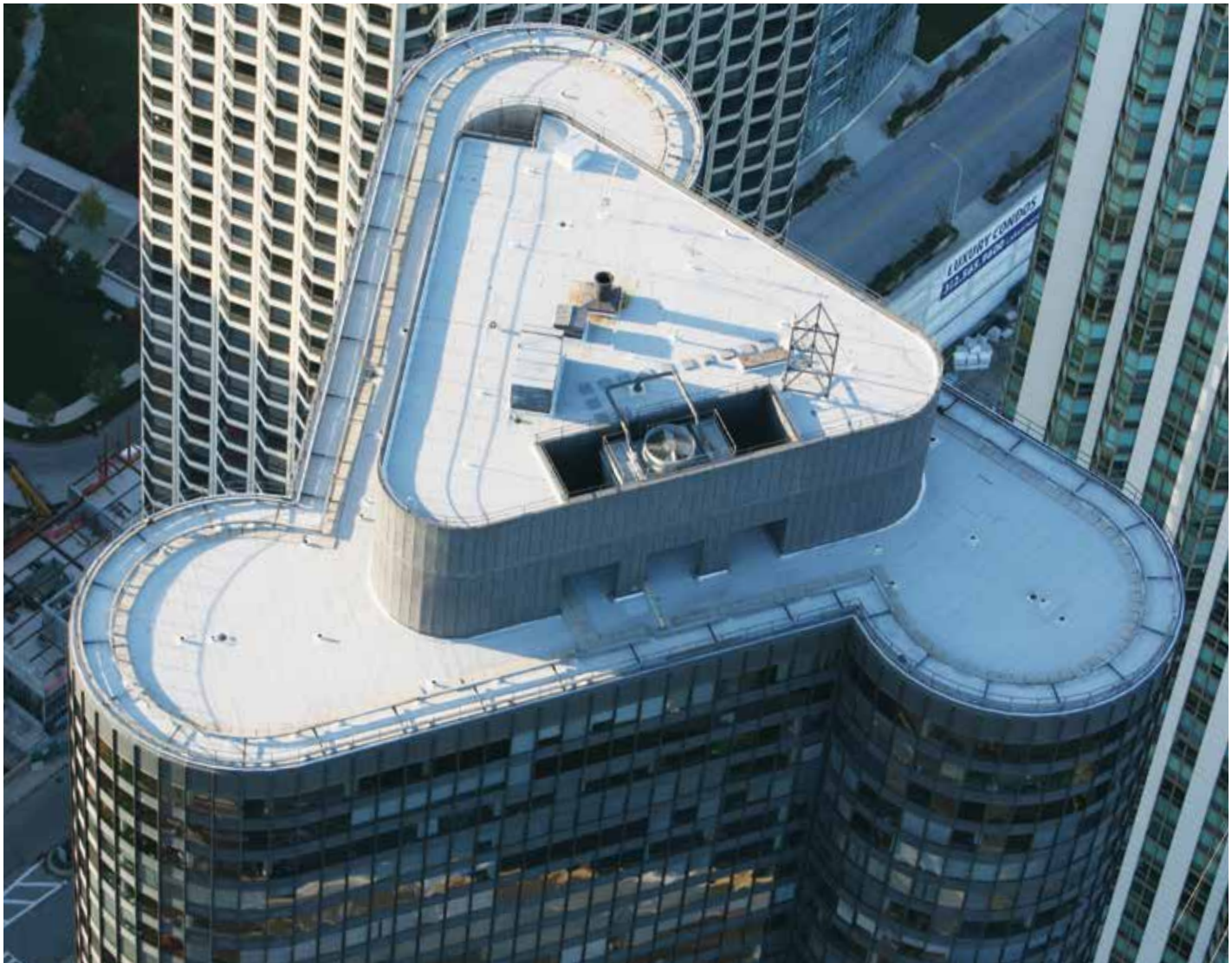
UL
VALIDATED
• REMOVES AN ESTIMATED 417 – 4,143 G NOX PER ROOFING SQUARE OVER 20 YEARS
UL.COM/ECV

Veral

Veral combines the proven waterproofing characteristics of SBS-modified asphalt and the stability and strength of glass mat/glass scrim with the protection and dramatic appearance of metal foil. The Veral System is composed of two sheet components – a smooth-surfaced base ply (Paradiene 20 or Irex) and Veral. The finish ply, Veral, combines a glass mat/glass scrim-reinforced SBS-modified bitumen base with a protective aluminum foil facing. For applications requiring a white finish ply, Veral Spectra is available. Veral Spectra's protective aluminum foil facing is factory coated with a high gloss white finish. Because metal and asphaltic materials expand at different rates, special features have been engineered into Veral's design. Using a patented embossing system, small control channels are built into the metal facing. A thin layer of low-melt asphalt is factory applied beneath these channels, allowing the metal to expand and contract independently of the modified bitumen base.

Over 900 squares of Paradiene 20/30 System protect this corporate headquarters building.

Paradiene 40 FR, installed in PA-311 Cold Adhesive, was used to re-cover the roof of this upscale high-rise condominium. Parapro 123 Flashing and Parapro Roof Membrane were also used on the project.



Over 3,800 squares of aluminum Veral provide an energy efficient solution for this convention center in Florida.

The Veral System is preferably applied by torching, which utilizes the closely controlled modified bitumen in the sheets. The finished assembly provides a strong, flexible, glass-reinforced membrane, completely shielded from the elements. Energy efficient Veral Aluminum meets the reflectance requirements of the U.S. EPA Energy Star Program and qualifies for LEED v4 credit for reflectance and emittance.

Energy efficient aluminum Veral was used to create the reflective roof on this facility on the campus of a California college.

Parafor 50 LT and Parafor 50 TG

Designed especially for sloped roofs, Siplast Parafor 50 LT is a single-ply roof membrane comprised of a base material that is a blend of elastomers and high-quality asphalt with a polyester/fiberglass scrim reinforcement. The result is a tough, flexible sheet with the stability and strength of fiberglass and the puncture resistance of polyester that can be applied with a torch, approved mopping asphalt, or one of Siplast's cold adhesive products. Parafor 50 TG has a patented micro-grooved torching surface. The micro grooves provide additional surface area that allows more rapid torch application than is possible with Parafor 50 LT. Both Parafor 50 LT and Parafor 50 TG can be used as alternatives to Veral for base flashing applications.

Accessories

The best roof membranes deserve the best roofing accessories, and Siplast offers a full line, including:

- Base sheets
- Polyisocyanurate roof insulation board
- Cover boards
- Protective walk pads
- Adhesives
- Primers
- Mastics and flashing cements
- Elastomeric sealant
- Roofing fasteners
- Elastomeric roof coating

Complete information on Siplast Roofing Accessories is available from your Siplast Representative, or on the Siplast Web site at siplast.com.

The Parapro 123 Flashing System provided an efficient solution for the numerous details on this business campus.

Paraguard Roof Perimeter Systems

Specifically engineered for use with Siplast Roof Systems, multi-component Paraguard Roof Perimeter Systems are designed to be easy to install. The roof edge features a galvanized steel waterdam/cant that can be installed at the start of a Siplast membrane application, allowing phased construction of the roof system. The fascia component is installed after the roofing is completed, to ensure a continuous watertight installation. Paraguard Coping has a galvanized steel anchor cleat plate with pre-punched nailing holes and a specially designed guttered splice plate for smoother finish lines. Paraguard is available in 27 standard colors in both pre-finished aluminum and galvanized steel. Custom colors can be matched individually.

The Parapro 123 Flashing System

The liquid-applied Parapro 123 Flashing System is the optimum solution for situations where conventional flashing methods would be labor intensive and cost-prohibitive to install, or application would be difficult due to accessibility. The Parapro 123 Flashing System is a layered application that encapsulates a polyester fleece reinforcement within two layers of catalyzed polymethyl methacrylate (PMMA) resin, creating a finished application that is seamless, fully reinforced, resilient, and exceptionally durable. Parapro adheres to Siplast Roof Systems as well as conventional construction materials. Optionally, Parapro can be surfaced with mineral granules or a liquid-applied color finish to suit a wide range of aesthetic requirements.

To reroof the Denton County Law Enforcement facility, the high performance two-ply SBS-modified bitumen Paradiene system was installed over NVS Lightweight Insulating Concrete.

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Siplast aluminum Veral, installed in 1998, still protects the New Orleans Sports Arena.

Cover Photo:
A Paradiene 20/30 FR System installed in cold adhesive was chosen for this office building in Tennessee.

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For information on Siplast Roofing and Waterproofing Systems, scan our QR code.